May 6, 2009

MDCH BOL Influenza Update - #7

Dear Laboratory Colleagues:

New Algorithm for Testing and Treatment

MDCH has issued a new algorithm for clinicians to assist with decisions on testing and treatment for novel influenza A H1N1. The complete algorithm is available in the Alert Details Section of the Michigan Health Alert Network home page. The new algorithm states that patients with a fever >37°C and respiratory symptoms (cough, sore throat, etc.) or a sepsis-like syndrome who are hospitalized should have a specimen collected and sent to MDCH for novel influenza testing. Prior approval for these specimens is not required, but the local health department should be contacted to report the case. The testing requisition that accompanies the specimen must indicate that the patient is hospitalized in the lower right corner of the requisition. Outpatients that are at a high risk for complications (children <5 years old; persons ≥ 65 years old; children and adolescents (6 months – 18 years) receiving long term aspirin therapy and who may be at risk for Reye's syndrome after influenza infection; pregnant women; individuals with chronic pulmonary, cardiovascular, hepatic, hematological, neurological, neuromuscular, or metabolic disorders; individuals with immunosuppression caused by medication or HIV; and residents of nursing homes and other chronic-care facilities) may also be tested. To expedite testing for high risk cases, clinicians need to work with the local health department and obtain approval before specimens are shipped to BOL.

Change to laboratory testing protocol

MDCH has received and validated a new real time PCR protocol for Swine-origin Influenza virus type A (S-OIV). This new assay is specific for S-OIV so it will no longer be necessary to send specimens to CDC for confirmation. This should decrease the turnaround time from specimen receipt to confirmation of S-OIV from several days to approximately 48 hours. MDCH will implement the new testing for all specimens received on or after May 7, 2008. Since there is a significant backlog of specimens pending confirmation for S-OIV at MDCH, the number of confirmed cases can be expected to increase rapidly in the next few days. This increase in confirmed cases is due solely to faster laboratory turnaround time and not to a rapid increase in new cases.

The new test looks for four viral markers: universal influenza A which detects human, avian, and swine Influenza A; swine flu A; swine subtype H1; and an internal positive control for human nucleic acid. The test results from the new assay will indicate whether the sample contains human seasonal influenza A, swine-origin influenza virus type A (S-OIV), and swine-origin influenza virus subtype H1. The results reported and their interpretation will be:

Result Interpretation	Universal Flu A	Universal Swine Flu A	Swine subtype H1	Internal[1] Control
Confirmed case S-OIV	+	+	+	+
Equivocal for S-OIV	Two of three markers positive			+
Probable case of human seasonal influenza	+	-	-	+
No evidence of Influenza A virus	-	-	-	+
Inconclusive. Specimen failed to amplify	-	-	-	-

[1] Results for the internal control will not appear on patient reports.

The new test will not look for influenza B virus and will not subtype cases that are probable cases of human influenza A. Samples that test positive for probable human seasonal influenza will be frozen and subtyped at a later date. Specimens reported as equivocal for S-OIV will be forwarded to CDC for additional testing.

Acceptable specimen types for testing include a nasopharyngeal swab, a combined nasopharyngeal/oropharyngeal swab, nasal swab, viral isolates or a nasal aspirate. Collection kits previously and currently distributed by MDCH are suitable for use with this new test.

Update to MDCH BOL Flu Collection Guide

On May 5, MDCH issued a laboratory update on ordering collection supplies from MDCH or preparing acceptable collection kits in-house. This guidance has been updated today and the updated document is available on the Michigan Health Alerting Network (MIHAN) webpage or at www.michigan.gov/mdchlab under the Guidelines for Labs option. The updated document requests that any laboratory requisition sent to MDCH include information about whether the patient is hospitalized, and, if needed, the name of the person approving testing, the approval date and the name of the local health department that approved the testing. Failure to provide this information may delay testing. The updated document also contains information for clinicians outside hospitals.

Please email your questions/concerns on flu testing to Dr. Anthony Muyombwe (muyombwea@michigan.gov) or Patty Clark (clarkp@michigan.gov). Issues with collection kit supplies can be directed to Val Reed (reedv@michigan.gov) or Marty Boehme (boehmem@michigan.gov).